

In the Claims:

1 1. (Currently amended) An electrode material for electrical
2 discharge machining made of a W-Cu alloy containing at
3 least 40% by weight of W, at most 15% by weight of one of
4 an additional element and a compound thereof, and a balance
5 of ~~[[Cu,]]~~ Cu and from 0 to 10% by weight of Ni,
6 containing, as one of said additional element and said
7 compound thereof, at most 10% by weight of at least one
8 selected from an alkali metal element, an alkaline-earth
9 metal element and a rare-earth element, and an oxide, a
10 hydroxide, a nitride, a boride and a sulfide of said
11 elements in particles having a mean particle diameter of
12 less than $3\mu\text{m}$.

1 2. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 1, wherein said
3 ~~at least one selected from said alkali metal element, said~~
4 ~~alkaline-earth metal element and said rare-earth element,~~
5 ~~and said oxide, said hydroxide, said nitride, said boride~~
6 ~~and said sulfide of said elements in particles has a mean~~
7 particle diameter of said particle is less than $1\mu\text{m}$.

1 3. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 1, wherein said
3 ~~at least one selected from said alkali metal element, said~~
4 ~~alkaline-earth metal element and said rare-earth element,~~

~~and said oxide, said hydroxide, said nitride, said boride~~
~~and said sulfide of said elements in particles [[has]]~~ have
a mean interparticle spacing of at most 10 μ m.

4. (Currently amended) The electrode material for electrical discharge machining according to claim 1, wherein said at least one selected from said alkali metal element, said alkaline-earth metal element and said rare-earth element, and said oxide, said hydroxide, said nitride, said boride and said sulfide of said elements in said particles ~~exists in~~ is mixed into particles of the Cu.

5. (Currently amended) The electrode material for electrical discharge machining according to claim 1, wherein said at least one selected from said alkali metal element, said alkaline-earth metal element and said rare-earth element, and said oxide, said hydroxide, said nitride, said boride and said sulfide of said elements in said particles ~~exists in some of W particles.~~ is mixed into some particles of the W.

6. (Original) The electrode material for electrical discharge machining according to claim 1, wherein said alkali metal element, said alkaline-earth metal element and said rare-earth element, and said oxide, said hydroxide, said nitride, said boride and said sulfide of said elements are

6 at least one of Ba, Nd, Ce, Y, Ca and K, and an oxide and
7 a hydroxide thereof.

1 7. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 1, wherein said W
3 ~~contains~~ is contained in W particles that include at least
4 30% by weight of particles having a particle diameter of at
5 most 1 μ m with respect to all of the W particles.

1 8. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 1, ~~wherein at most~~
3 ~~10% by weight of Ni is further contained instead of a~~
4 ~~portion of said Cu.~~ containing a positive amount of
5 said Ni.

1 9. (Original) A method of manufacturing the electrode material
2 for electrical discharge machining recited in claim 1,
3 using a source powder containing a Cu powder and/or a W
4 powder, and a powder of at least one selected from an
5 alkali metal element, an alkaline-earth metal element and
6 a rare-earth element, and an oxide, a hydroxide, a nitride,
7 a boride and a sulfide of said elements, said source powder
8 being mixed by using one of a mechanical alloying method,
9 a method of using a fine source powder, and a
10 coprecipitation method.

1 10. (Currently amended) An electrode material for electrical
2 discharge machining made of a W-Cu alloy containing at
3 least 40% by weight of W, at most 15% by weight of one of
4 an additional element and a compound thereof, and a balance
5 of ~~[[Cu,]]~~ Cu and from 0 to 10% by weight of Ni,
6 containing, as one of said additional element and said
7 compound thereof, at most 10% by weight of at least one
8 selected from an alkali metal element, an alkaline-earth
9 metal element and a rare-earth element, and an oxide, a
10 hydroxide, a nitride, a boride and a sulfide of said
11 elements in particles having a mean interparticle spacing
12 of at most ~~[[20 μ m:]]~~ 14 μ m.

1 11. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 10, wherein said
3 ~~at least one selected from said alkali metal element, said~~
4 ~~alkaline-earth metal element and said rare-earth element,~~
5 ~~and said oxide, said hydroxide, said nitride, said boride~~
6 ~~and said sulfide of said elements in particles~~ ~~[[has]]~~ have
7 a mean particle diameter of less than 1 μ m.

1 12. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 10, wherein said
3 ~~at least one selected from said alkali metal element, said~~
4 ~~alkaline-earth metal element and said rare-earth element,~~
5 ~~and said oxide, said hydroxide, said nitride, said boride~~

6 ~~and said sulfide of said elements in particles has a~~ mean
7 interparticle spacing of said particles is at most 10 μ m.

1 13. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 10, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles
7 ~~exists in~~ is mixed into particles of the Cu.

1 14. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 10, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles exists
7 ~~in some of W particles.~~ is mixed into some particles of
8 the W.

1 15. (Original) The electrode material for electrical discharge
2 machining according to claim 10, wherein said alkali metal
3 element, said alkaline-earth metal element and said
4 rare-earth element, and said oxide, said hydroxide, said
5 nitride, said boride and said sulfide of said elements are
6 at least one of Ba, Nd, Ce, Y, Ca and K, and an oxide and
7 a hydroxide thereof.

1 16. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 10, wherein said W
3 ~~contains~~ is contained in W particles that include at least
4 30% by weight of particles having a particle diameter of at
5 most 1 μ m with respect to all of the W particles.

1 17. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 10, ~~wherein at most~~
3 ~~10% by weight of Ni is further contained instead of a~~
4 ~~portion of said Cu.~~ containing a positive amount of
5 said Ni.

1 18. (Original) A method of manufacturing the electrode material
2 for electrical discharge machining recited in claim 10,
3 using a source powder containing a Cu powder and/or a W
4 powder, and a powder of at least one selected from an
5 alkali metal element, an alkaline-earth metal element and
6 a rare-earth element, and an oxide, a hydroxide, a nitride,
7 a boride and a sulfide of said elements, said source powder
8 being mixed by using one of a mechanical alloying method,
9 a method of using a fine source powder, and a
10 coprecipitation method.

1 19. (Currently amended) An electrode material for electrical
2 discharge machining made of a W-Cu alloy containing at
3 least 40% by weight of W, at most 15% by weight of one of

an additional element and a compound thereof, and a balance of ~~[[Cu,]]~~ Cu and from 0 to 10% by weight of Ni, containing, as one of said additional element and said compound thereof, at most 10% by weight of at least one selected from an alkali metal element, an alkaline-earth metal element and a rare-earth element, and an oxide, a hydroxide, a nitride, a boride and a sulfide of said elements in particles having a mean particle diameter of less than $3\mu\text{m}$ and a mean interparticle spacing of at most ~~[[20 μm .]]~~ 14 μm .

20. (Currently amended) The electrode material for electrical discharge machining according to claim 19, wherein said ~~at least one selected from said alkali metal element, said alkaline-earth metal element and said rare-earth element, and said oxide, said hydroxide, said nitride, said boride and said sulfide of said elements in particles has a mean particle diameter of~~ said particles is less than $1\mu\text{m}$.

21. (Currently amended) The electrode material for electrical discharge machining according to claim 19, wherein said ~~at least one selected from said alkali metal element, said alkaline-earth metal element and said rare-earth element, and said oxide, said hydroxide, said nitride, said boride and said sulfide of said elements in particles has a mean interparticle spacing of~~ said particles is at most $10\mu\text{m}$.

1 22. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 19, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles
7 ~~exists in~~ is mixed into particles of the Cu.

1 23. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 19, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles ~~exists~~
7 ~~in some of W particles.~~ is mixed into some particles of
8 the W.

1 24. (Original) The electrode material for electrical discharge
2 machining according to claim 19, wherein said alkali metal
3 element, said alkaline-earth metal element and said
4 rare-earth element, and said oxide, said hydroxide, said
5 nitride, said boride and said sulfide of said elements are
6 at least one of Ba, Nd, Ce, Y, Ca and K, and an oxide and
7 a hydroxide thereof.

1 25. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 19, wherein said W

3 ~~contains~~ is contained in W particles that include at least
4 30% by weight of particles having a particle diameter of at
5 most 1 μ m with respect to all of the W particles.

1 26. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 19, ~~wherein at most~~
3 ~~10% by weight of Ni is further contained instead of a~~
4 ~~portion of said Cu.~~ containing a positive amount of
5 said Ni.

1 27. (Original) A method of manufacturing the electrode material
2 for electrical discharge machining recited in claim 19,
3 using a source powder containing a Cu powder and/or a W
4 powder, and a powder of at least one selected from an
5 alkali metal element, an alkaline-earth metal element and
6 a rare-earth element, and an oxide, a hydroxide, a nitride,
7 a boride and a sulfide of said elements, said source powder
8 being mixed by using one of a mechanical alloying method,
9 a method of using a fine source powder, and a
10 coprecipitation method.

1 28. (Currently amended) An electrode material for electrical
2 discharge machining made of a W-Cu alloy containing at
3 least 40% by weight of W, at most 15% by weight of one of
4 an additional element and a compound thereof, and a balance
5 of ~~[[Cu,]]~~ Cu and from 0 to 10% by weight of Ni,
6 containing, as one of said additional element and said

7 compound thereof, at most 10% by weight of at least one
8 selected from an alkali metal element, an alkaline-earth
9 metal element and a rare-earth element, and an oxide, a
10 hydroxide, a nitride, a boride and a sulfide of said
11 elements in particles, wherein a content of said particles
12 having a particle diameter of at most $3\mu\text{m}$ is at least 0.3%
13 by weight with respect to the entire alloy.

1 29. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 28, containing said
3 at least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles,
7 wherein ~~[[a]]~~ said content of said particles having ~~[[a]]~~
8 said particle diameter of at most $3\mu\text{m}$ is at least 0.6% by
9 weight with respect to the entire alloy.

1 30. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 28, containing said
3 at least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles,
7 wherein a content of said particles having a particle
8 diameter of at most $1\mu\text{m}$ is at least 0.3% by weight with
9 respect to the entire alloy.

1 31. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 28, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles
7 ~~exists in~~ is mixed into particles of the Cu.

1 32. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 28, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles ~~exists~~
7 ~~in some of W particles.~~ is mixed into some particles of
8 the W.

1 33. (Original) The electrode material for electrical discharge
2 machining according to claim 28, wherein said alkali metal
3 element, said alkaline-earth metal element and said
4 rare-earth element, and said oxide, said hydroxide, said
5 nitride, said boride and said sulfide of said elements are
6 at least one of Ba, Nd, Ce, Y, Ca and K, and an oxide and
7 a hydroxide thereof.

1 34. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 28, wherein said W
3 ~~contains~~ is contained in W particles that include at least
4 30% by weight of particles having a particle diameter of at
5 most 1 μ m with respect to all of the W particles.

1 35. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 28, ~~wherein at most~~
3 ~~10% by weight of Ni is further contained instead of a~~
4 ~~portion of said Cu.~~ containing a positive amount of
5 said Ni.

1 36. (Original) A method of manufacturing the electrode material
2 for electrical discharge machining recited in claim 28,
3 using a source powder containing a Cu powder and/or a W
4 powder, and a powder of at least one selected from an
5 alkali metal element, an alkaline-earth metal element and
6 a rare-earth element, and an oxide, a hydroxide, a nitride,
7 a boride and a sulfide of said elements, said source powder
8 being mixed by using one of a mechanical alloying method,
9 a method of using a fine source powder, and a
10 coprecipitation method.

1 37. (Currently amended) An electrode material for electrical
2 discharge machining made of a W-Cu alloy containing at
3 least 40% by weight of W, at most 15% by weight of one of
4 an additional element and a compound thereof, and a balance

5 of ~~[[Cu₇]]~~ Cu and from 0 to 10% by weight of Ni,
6 containing, as one of said additional element and said
7 compound thereof, at most 10% by weight of at least one
8 selected from an alkali metal element, an alkaline-earth
9 metal element and a rare-earth element, and an oxide, a
10 hydroxide, a nitride, a boride and a sulfide of said
11 elements in particles, wherein a content of said particles
12 having an interparticle spacing of at most ~~[[20μm]]~~ 14μm is
13 at least 0.3% by weight with respect to the entire alloy.

1 38. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 37, containing said
3 at least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles,
7 wherein a content of said particles having an interparticle
8 spacing of at most 10μm is at least 0.3% by weight with
9 respect to the entire alloy.

1 39. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 37, containing said
3 at least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles,
7 wherein a content of said particles having an interparticle

8 spacing of at most 10 μ m is at least 0.7% by weight with
9 respect to the entire alloy.

1 40. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 37, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles
7 ~~exists in~~ is mixed into particles of the Cu.

1 41. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 37, wherein said at
3 least one selected from said alkali metal element, said
4 alkaline-earth metal element and said rare-earth element,
5 and said oxide, said hydroxide, said nitride, said boride
6 and said sulfide of said elements in said particles ~~exists~~
7 ~~in some of W particles.~~ is mixed into some particles of
8 the W.

1 42. (Original) The electrode material for electrical discharge
2 machining according to claim 37, wherein said alkali metal
3 element, said alkaline-earth metal element and said
4 rare-earth element, and said oxide, said hydroxide, said
5 nitride, said boride and said sulfide of said elements are
6 at least one of Ba, Nd, Ce, Y, Ca and K, and an oxide and
7 a hydroxide thereof.

1 43. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 37, wherein said W
3 contains is contained in W particles that include at least
4 30% by weight of particles having a particle diameter of at
5 most 1 μ m with respect to all of the W particles.

1 44. (Currently amended) The electrode material for electrical
2 discharge machining according to claim 37, ~~wherein at most~~
3 ~~10% by weight of Ni is further contained instead of a~~
4 ~~portion of said Cu.~~ containing a positive amount of
5 said Ni.

1 45. (Original) A method of manufacturing the electrode material
2 for electrical discharge machining recited in claim 37,
3 using a source powder containing a Cu powder and/or a W
4 powder, and a powder of at least one selected from an
5 alkali metal element, an alkaline-earth metal element and
6 a rare-earth element, and an oxide, a hydroxide, a nitride,
7 a boride and a sulfide of said elements, said source powder
8 being mixed by using one of a mechanical alloying method,
9 a method of using a fine source powder, and a
10 coprecipitation method.

1 46. (New) The electrode material for electrical discharge
2 machining according to claim 1, wherein said W-Cu alloy
3 contains 0% by weight of Ni.

1 47. (New) The electrode material for electrical discharge
2 machining according to claim 1, wherein said W-Cu alloy
3 consists of said W, said one of said additional element and
4 said compound thereof, and said Cu.

1 48. (New) The electrode material for electrical discharge
2 machining according to claim 10, wherein said W-Cu alloy
3 contains 0% by weight of Ni.

1 49. (New) The electrode material for electrical discharge
2 machining according to claim 10, wherein said W-Cu alloy
3 consists of said W, said one of said additional element and
4 said compound thereof, and said Cu.

1 50. (New) The electrode material for electrical discharge
2 machining according to claim 19, wherein said W-Cu alloy
3 contains 0% by weight of Ni.

1 51. (New) The electrode material for electrical discharge
2 machining according to claim 19, wherein said W-Cu alloy
3 consists of said W, said one of said additional element and
4 said compound thereof, and said Cu.

1 52. (New) The electrode material for electrical discharge
2 machining according to claim 28, wherein said W-Cu alloy
3 contains 0% by weight of Ni.

1 53. (New) The electrode material for electrical discharge
2 machining according to claim 28, wherein said W-Cu alloy
3 consists of said W, said one of said additional element and
4 said compound thereof, and said Cu.

1 54. (New) The electrode material for electrical discharge
2 machining according to claim 37, wherein said W-Cu alloy
3 contains 0% by weight of Ni.

1 55. (New) The electrode material for electrical discharge.
2 machining according to claim 37, wherein said W-Cu alloy
3 consists of said W, said one of said additional element and
4 said compound thereof, and said Cu.

[RESPONSE CONTINUES ON NEXT PAGE]